



High Desert Power Project, LLC

1044 N. 115 Street, Suite 400 | Omaha, Nebraska 68154-4446
402-691-9500 | FAX: 402-691-9526

July 20, 2009

Mr. Steve Munro
Compliance Project Manager
California Energy Commission MS-2000
1516 Ninth Street
Sacramento, CA 95814

**RE: High Desert Power Project, LLC
Docket No. 97-AFC-1
Response to Data Requests**

Dear Mr. Munro:

Enclosed please find responses to data requests submitted to the High Desert Power Project by Commission Staff pertaining to the June 4, 2009 Supplement to Petition for Modification to Use Reclaimed Water. Responses provided herein appear in the same order as presented in the data request.

Should you have any questions or need additional information regarding this submittal, please contact me in Omaha at (402) 691-9736 or Jon Boyer at the plant at (760) 530-2303.

Sincerely,

A handwritten signature in black ink that reads "M. Fred Strauss". The signature is fluid and cursive, with a long horizontal line extending from the end.

M. Fred Strauss, P.G.
Director, Environmental Programs

Enclosure

**Responses to June 29, 2009 CEC Staff
Follow up Data Requests
for the June 4, 2009 High Desert Power Project, LLC
Petition for Modification to use Reclaimed Water
at the High Desert Power Project**

1. ***Please provide a will serve letter from the City of Victorville (City) for the supply and delivery of tertiary treated recycled water from the Victor Valley Regional Wastewater Treatment Plant (VWWTP). Within the will serve letter, please provide the average and maximum delivery rate in gpm and annual volume in acre-feet per year (AFY) to meet HDPP's water supply needs and to determine the treatment requirements for the conversion to 100% tertiary treated recycled water.***

Response: See attached Will Serve letter provided by the City of Victorville.

2. ***Please provide a copy of the water supply agreement/contract with the City for the supply and delivery of raw water to the HDPP.***

Response: See attached copy of the Water Service Agreement.

3. ***In tabular format, please provide the City's long-term (25 to 30 years) supply and demand forecast for tertiary treated recycled water in AFY. Please list separately all current and expected tertiary treated recycled water production facilities, all current and future tertiary treated recycled water customers, and a discussion of the tertiary treated recycled water supply reliability based on those supply and demand projections.***

Response: See attached Summary Table of Recycled Water Availability provided by the City of Victorville based on available long-term projections through year 2040. During the period 2009 through 2011, HDPP demand for reclaimed water is assumed to be 1000 AFY (0.89 MGD). In 2012 and beyond, HDPP's demand is assumed to be 3200 AFY (2.86 MGD), or 80% of the estimated maximum design amount of 4000 AFY, which is representative of an 80% plant capacity factor. The demand for Victorville 2 project was also assumed to be 80% of the permitted demand (2600 AFY/2.32 MGD) with the first year only being 9 months. Note that in any year shortfall to Victorville 2 can be made up by the City providing potable water as permitted by the Energy Commission. In addition, the City can irrigate the Westwinds golf course with potable water at any time, as needed. Shortfall to HDPP can

be made up from SWP water and/or extracting water stored in the Aquifer Banking System. Reclaimed water demand scenarios for both projects as shown in the table are considered to be conservative; hence, the reliability of sufficient reclaimed water supply for the HDPP facility based on the City's projections shown therein is high.

4. ***Please provide the preferred timeframe for conversion to 100% tertiary treated recycled water for HDPP cooling and a discussion of the conversion process/tasks required to be completed before 100% conversion can occur.***

Response: Plans are for the City to begin construction of the 18-inch diameter pipeline (and associated facilities) from the existing 16-inch diameter recycled water pipeline upon issuance of the Energy Commission's approval of HDPP's Petition. Concurrently, HDPP will construct piping inside the fence line to connect the 18-inch diameter pipeline for discharge into the cooling tower basin. Target completion of the work is within 60 days following notice to proceed, at which time HDPP plans to begin blending up to 1000 AFY of Title 22 recycled with treated State Water Project water in the cooling tower. Fall of 2009 is the target date to begin blending recycled water.

Depending on actual equipment performance from the initial use of reclaimed water, additional treatment works may be required for HDPP to switch to 100% recycled water. A feasibility study is currently being completed which will identify what equipment may be needed to provide the most appropriate treatment method for the additional recycled water. If additional treatment is required, the process/tasks involved to build the additional treatment works would include: (i) engineering design, (ii) permitting with the Energy Commission and Lahontan Regional Water Quality Control Board, and (iii) entering into one or more contracts for procurement and construction of the facilities. A forecast of mid to late 2012 to commission the additional treatment works and/or switch to 100% recycled water without additional treatment is reasonable at this time.

5. ***Please provide a water characteristic table that compares the constituents of the SWP raw water supplied by the City to the proposed tertiary treated recycled water from the VVWTP. All SWP water constituents will be included in the table as well as those tertiary treated recycled water constituents that are not found in SWP water but would require additional treatment prior to use as HDPP cooling water.***

Response: See the attached table of available Water Quality Data.

6. ***Please provide a revised Figure 1 that shows the new wastewater treatment plant that is currently under construction, the proposed route and interconnection point of the new tertiary treated recycled water pipeline, and the existing raw water (SWP water) supply pipeline and its interconnection to the HDPP facility.***

Response: See the attached revised Figure 1.

7. ***Please provide a discussion of the delivery capabilities (maximum flow rate and volume) of the proposed 18-inch diameter pipeline and whether the proposed interconnection to the City's existing 16-inch diameter tertiary treated recycled water pipeline would restrict those capabilities.***

Response: The 18-inch diameter pipeline will be capable of a flow rate up to approximately 4000 gpm and the 16-inch diameter pipeline will not restrict this capability.

8. ***Please provide new text for a modified Condition of Certification SOIL&WATER-4 that is based on the operational and supply constraints of banking excess SWP water and the diminished need for banking when tertiary treated recycled water is available. Please propose an injection schedule that provides the desired level of water supply reliability and strikeout those requirements that are no longer relevant or achievable based on current and expected SWP deliveries. Please propose new verification text that provides a mechanism for forecasting and reporting the volume of water to be banked based on the Mojave Water Agency's final SWP water allocation.***

Response: HDPP proposes that SOIL&WATER-4 be revised to read as follows:

SOIL&WATER-4 Injection Schedule:

- a. The project owner shall inject one thousand (1000) acre-feet of SWP water within twelve (12) months of the commencement of the project's commercial operation.
- b. By the end of four years and two months from the start of commercial operation, the project owner shall install and begin operation of a pre-injection ultraviolet (UV) disinfection system.
- c. By the end of the fifth year of commercial operation, the project shall submit a report to the CPM demonstrating that HDPP has

maintained an average THM concentration level consistent with the WDR permit requirements.

d. After the end of the fifth year of commercial operation, the project owner may: (i) inject SWP water when it is available in excess of volumes needed to operate the project, and (ii) extract SWP water to operate the project. The amount of water available to HDPP for extraction is equal to Injection minus Extraction minus Dissipation minus 1000 acre-feet, as defined in SOIL&WATER-6.

~~d. The project shall install and implement a pre-injection reverse osmosis treatment system within one (1) year if any water banking milestone is not met as defined in the following table.~~

~~Table of Milestones for Calculated Water Bank Reserve (1)~~

Water Banking Year	Anniversary Date (2)	End of Year Milestones (3)	Contingency Plan: Criteria for Installation of Reverse Osmosis
8	April 21, 2011	Water Banking Goal	Calculated Water Bank Reserve < 2,500 ac-ft
9	April 21, 2012	Water Banking Goal	Calculated Water Bank Reserve < 5,400 ac-ft
10	April 21, 2013	Water Banking Goal	Calculated Water Bank Reserve < 8,300 ac-ft
11	April 21, 2014	Water Banking Goal	Calculated Water Bank Reserve < 9,200 ac-ft
12	April 21, 2015	Water Banking Goal	Calculated Water Bank Reserve < 10,100 ac-ft
13	April 21, 2016	Water Banking Goal	Calculated Water Bank Reserve < 11,000 ac-ft
14	April 21, 2017	Water Banking Goal	Calculated Water Bank Reserve < 12,000 ac-ft
15	April 21, 2018	Water Banking Goal	Calculated Water Bank Reserve < 13,500 ac-ft

~~(1) Calculated Water Bank Reserve = Injection minus Extraction minus Dissipation. (Amount of water available to HDPP is equal to Injection minus Extraction minus Dissipation minus 1000 acre-feet, as defined in SOIL&WATER-6.)~~

~~(2) Start of Commercial Operation: April 22, 2003.~~

~~(3) Milestones are designed to determine if injection falls significantly behind schedule.~~

~~e. No later than the end of the fifteenth (15) year of commercial operation, the amount of water injected minus the amount of~~

~~banked groundwater used for project operation, minus the amount of dissipated groundwater shall meet or exceed thirteen thousand (13,000) acre-feet.~~

- ~~f. After the requirement of section e has been satisfied and until three (3) years prior to project closure, the project owner shall replace banked groundwater used for project operation as soon as SWP water is available for sale by MWA. The project owner may choose to delay replacement of a limited quantity of banked groundwater used for project operations during aqueduct outages until the cumulative amount of groundwater withdrawn from the bank reaches one thousand (1,000) acre-feet.~~

~~Once the limit of one thousand (1,000) acre-feet has been reached, the project owner shall replace banked groundwater used for project operation during aqueduct outages as soon as SWP water is available for sale by MWA.~~

Verification: The project owner shall submit an installation and operation report describing the pre-injection ultraviolet disinfection (UV) by the end of the fourth year of commercial operation. The project owner shall submit a UV performance report by the fifth year of commercial operation. **Forecasted estimates of SWP water to be injected shall be included in the quarterly Aquifer Storage and Recovery Well Report.** For other related items, see the verification to Condition 5. See also the verification to Condition 12.

9. ***Please provide proposed modifications or deletion to any of the remaining conditions of certification that would be affected by the use of tertiary treated recycled water.***

Response: HDPP proposes that SOIL&WATER-1 be revised to read as follows:

SOIL&WATER-1 ~~The only~~ **W**ater used for project operation (except for domestic purposes) shall be State Water Project (SWP) water obtained by the project owner consistent with the provisions of the Mojave Water Agency's (MWA) Ordinance 9 **and/or tertiary-treated Title 22 reclaimed water.**

- a. Whenever SWP water is available to be purchased from MWA **and/or reclaimed water is available in accordance with SOIL&WATER-1(d).** the project owner shall use direct delivery of such water for project operation.

- b. ~~The project may~~ Whenever water is not available to be purchased from the MWA the project owner may use SWP water banked in the ~~seven~~ **four** HDPP wells ~~identified in Figure Number 1 of the Addendum Number 1 to the "Evaluation of Alternative Water Supplies for the High Desert Power Project: (Bookman Edmonston 1998)~~ as long as the amount of water used does not exceed the amount of water determined to be available to the project pursuant to SOIL&WATER-5.
- c. If there is no **SWP** water available to be purchased from the MWA **and there is no reclaimed water available,** and there is no banked water available to the project, as determined pursuant to SOIL&WATER-5, no groundwater shall be pumped, and the project shall not operate.
- d. ~~The project shall not use treated water from the Victor Valley Wastewater Authority.~~ **The project may incorporate use of reclaimed water in volumes and at rates commensurate with equipment capabilities.**
- e. The project's water supply facilities shall be appropriately sized to meet project needs.

Verification: The project owner shall provide final design drawings of the project's water supply facilities to the CPM, for review and approval, thirty (30) days before commencing project construction. Verifying compliance with other elements of Condition SOIL&WATER-1 shall be accomplished in accordance with the provisions of the Verifications for Conditions 2, 3, and 6, as appropriate.

Attachments



July 2, 2009

Fred Strauss
Tenaska Capital Management
1044 N. 115 Street, Suite 400
Omaha, NE 68154-4446

Re: Reclaimed Water Service to HDPP

Dear Mr. Strauss,

Once the California Energy Commission (CEC) amends the current permit to allow reclaimed water for cooling the High Desert Power Project (HDPP), the City of Victorville/Victorville Water District (VWD) will provide Title 22 water via the existing Victor Valley Waste Water Authority plant and the proposed VWD Industrial Waste Water Treatment Plant. It is our understanding the initial Title 22 water demand will be 1000 AF/YR (Avg. Flow= 620 GPM, Max. Flow= 1300 GPM) and the ultimate Title 22 demand will be 4000 AF/YR (Avg. Flow= 2500 GPM, Max. Flow= 4000 GPM). It is also our understanding that HDPP will need to construct additional treatment facilities before their demand will increase from 1000 AF/YR to 4000 AF/YR. These additional treatment facilities will not be operational for two to three years. VWD is currently constructing the facilities necessary to meet your Title 22 demands.

If you have any questions, please call me at 760-559-8172.

Sincerely,

Reginald A. Lamson

WATER SERVICE AGREEMENT

This Water Service Agreement ("Agreement") is made and entered into effective this 11th day of OCTOBER, 2001, by and between the CITY OF VICTORVILLE, a California municipality ("City") and HIGH DESERT POWER TRUST, a Delaware Business Trust, ("HDPT").

RECITALS

WHEREAS, City is duly authorized to deliver water; and

WHEREAS, HDPT has requested City to deliver water to a power generation facility located at Southern California Logistics Airport in the City of Victorville (the "HDPT Facility"); and

WHEREAS, the California Energy Commission has adopted Conditions of Certification for Soil and Water Resources with respect to the HDPT Facility, which City and HDPT agree control the terms of this Agreement, a copy of which conditions, including the verification provisions thereof, is attached hereto as Exhibit A (the "CEC Conditions"); and

WHEREAS, the City acknowledges that High Desert Power Project, LLC, a predecessor in interest to HDPT, and the Victor Valley Water District ("VVWD") have previously entered into an agreement pertaining to the storage of water for the HDPT Facility dated as of January 18, 2000.

NOW THEREFORE, the parties hereby agree as follows:

ARTICLE I

WATER DELIVERY AND FACILITY CONSTRUCTION

1. Delivery of Water.

Subject to the provisions hereafter set forth, City agrees to deliver to HDPT all of the State Water Project water it requests in an amount up to eight thousand acre-feet of water annually provided: (1) that the City is able to obtain such water from the Mojave Water Agency ("MWA") pursuant to Ordinance 9 of the MWA, as adopted April 25, 1995, and any successor ordinance ("Ordinance 9), or any other water service agreement between the City and MWA; or (2) the City or HDPT through a separate mutual written agreement can obtain such water from another source and transport it through MWA's facilities. City shall make all reasonable efforts to obtain water pursuant to Ordinance 9 or any other service agreement with MWA. City acknowledges the amount of water requested by HDPT and that, except as otherwise set forth herein, the City should be able to obtain water from MWA pursuant to Ordinance No. 9 and thereby deliver water to HDPT in that amount. Both parties agree that delivery of water is subject to (a) Ordinance No. 9 of the MWA, (b) the provisions of any applicable water service agreement entered into between MWA and the City, and (c) Soil & Water 1 of the CEC Conditions.

2. Facilities for Delivery of Water.

(a) By execution of this Agreement, City agrees to construct, own, operate, and maintain such facilities through which City will deliver water to HDPT at the northern boundary of the HDPT Facility at approximately the location depicted on Exhibit B attached hereto (the "Improvements"). At least sixty (60) days prior to commencement of work on the Improvements, HDPT will assign or cause to be assigned to the City all necessary rights-of-way and easements, except for those on Air

force owned property which the City shall obtain, required for the delivery of water to the HDPT Facility depicted on Exhibit "B". HDPT also agrees that it will provide the City with access to the site of the proposed point of connection with the HDPT Facility. At least thirty (30) days prior to commencement of work, City shall provide HDPT with a complete set of specifications, engineering drawings, cost estimate and schedules for construction. HDPT will have fifteen (15) days to approve or modify these documents. If HDPT makes changes to these documents, City will have thirty (30) days to submit the revisions to HDPT. City and HDPT will reach mutual agreement on all such modifications prior to any obligation on behalf of the City to commence construction of the Improvements. The City understands HDPT needs water by August 1, 2002 and will use best efforts to ensure that the Improvements are constructed and are in place in order to be able to deliver water to HDPT on or before such date.

(b) City shall be solely responsible for obtaining all licenses, permits and approvals for construction of the Improvements and the delivery of water to HDPT hereunder.

(c) HDPT shall reimburse the City for all of the City's typical and reasonable costs of design, acquisition and construction of the Improvements and reasonable administrative costs associated with the delivery of water pursuant to this Agreement which costs would include but not be limited to costs associated with submitting any required applications and/or permits. Estimates of such costs, which must be agreed to by both parties, will be attached hereto as Supplemental Exhibit "C." Any increase in any such cost beyond the applicable estimate must first be approved by HDPT, which approval shall not be unreasonably withheld. In addition, HDPT will reimburse the City for all reasonable costs associated with the ongoing operation,

maintenance, repair and replacement of the Improvements pursuant to Section 4 hereof.

(d) City shall maintain and provide HDPT with proof of comprehensive general liability insurance covering any construction to be performed pursuant to this Agreement. In lieu of the foregoing, the City may provide evidence that it is self-insured.

(e) HDPT shall have the right to inspect the Improvements from time to time and shall have access to the site of the Improvements at all reasonable times for the purpose of accomplishing such inspection. HDPT shall further have the right to audit the books and records of City and any contractors who are engaged by City with respect to the design, acquisition, construction, installation, administration and operation of the Improvements.

(f) At all times while constructing the Improvements, City shall be acting on its own behalf and not as the agent, employee, or servant of HDPT. Subject to HDPT's approval of the Improvements and right of inspection, City has and hereby retains the right to exercise full control and supervision of the Improvements and full control over the employment, direction, method of performing, compensation, and discharge of all persons assisting in the Improvements. City agrees to be solely responsible for all matters relating to payment of its contractors and employees, including compliance with Social Security, withholding, and all other regulations governing such matters.

3. Completion of Improvements.

Following completion and testing of the Improvements, the City shall, upon HDPT's request and subject to the provisions of this Agreement, commence delivery of water to HDPT through the Improvements.

4. Rates for Delivery.

HDPT shall pay City for all water delivered under this Agreement in an amount equal to: (a) the cost of water that the City is charged by MWA; (b) reasonable administrative fees and costs as provided in Section 2(c) hereof; and (c) a reasonable amount for operation, maintenance, repair and replacement of the Improvements, provided that (i) if the City uses the Improvements to serve other customers, HDPT shall be obligated to pay only a pro rata share of the cost of the operation, maintenance, repair and replacement of the Improvements, based on the volumes of water supplied to HDPT and the other customers (with the City being deemed a customer, if it takes water for its own use); and (ii) with respect to any replacement that, in the reasonable judgment of the City, will have an expected useful life beyond the term of this Agreement, City shall give HDPT the option of paying the replacement cost and if HDPT refuses and the replacement is necessary for HDPT to receive water service, the Agreement shall terminate. The Parties agree that the City may, use any additional unused capacity available in the Improvements for such purposes as the City deems appropriate.

5. Water Quality.

HDPT acknowledges that it is familiar with the sources of water delivered hereunder and is aware that the City shall use best efforts to ensure that the water delivered by City shall be of the same quality as the water it receives from MWA pursuant to the terms of Ordinance 9 or any applicable water service agreement with MWA.

6. Water Rights. This Agreement is not intended to, and does not, create any water rights between the parties.

7. Billing and Payment.

City shall bill HDPT monthly for water delivered to HDPT. HDPT shall pay City's bill for water delivery in accordance with City's standard billing and payment practices. Charges paid more than thirty (30) days after the date of the receipt of the statement and overdue amounts shall bear interest at the rate of twelve (12) percent per annum.

8. Effective Date and Termination.

This Agreement shall become effective upon execution by the parties. This Agreement shall terminate fifty (50) years from the date hereof or earlier upon written notice from HDPT. Upon any termination, neither party will have any further responsibility under this Agreement, except for the indemnification obligations imposed upon such party pursuant to Section 9 or 10 hereof, as applicable, with respect to causes of action arising before such termination. The Agreement will terminate if HDPT or its successors permanently cease to operate the project as a power generation facility.

ARTICLE III

MISCELLANEOUS

9. Indemnity by City.

City agrees to fully indemnify HDPT and its affiliates, and to hold it and them and, its and their officers, directors, employees, agents, successors and assigns, completely free and harmless, from and against any and all liabilities, claims, demands, litigation, or any other claims of whatever kind or nature resulting from, pertaining to, or occasioned by the construction or operation of the Improvements or the breach of any

obligation of City under this Agreement. Additionally, City specifically acknowledges and agrees to fully reimburse HDPT for any and all costs and expenses including, but not limited to, expert witness and attorneys' fees, incurred by HDPT in the defense of any such claim, asserted or unasserted. City's obligation to indemnify HDPT shall unconditionally commence as of the execution of this Agreement. The City will not be responsible for the supply of water if the supply of water is affected by actions beyond its control or the failure of MWA to provide water under Ordinance 9 or any applicable water service agreement with MWA.

10. Indemnity by HDPT.

HDPT agrees to fully indemnify City, and to hold it, its officers, directors, employees, agents, successors and assigns, completely free and harmless, from and against any and all liabilities, claims, demands, litigation, or any other claims of whatever kind or nature resulting from, pertaining to, or occasioned by the use of water at the HDPT Facility or the breach of any obligation of HDPT under this Agreement. Additionally, HDPT specifically acknowledges and agrees to fully reimburse City for any and all costs and expenses including, but not limited to, expert witness and attorneys' fees, incurred by City in the defense of any such claim, asserted or unasserted. HDPT's obligation to indemnify City shall unconditionally commence as of the execution of this Agreement.

11. Entire Agreement.

This Agreement contains the entire understanding between City and HDPT with respect to its subject matter, and supersedes all prior agreements, oral or written, and all prior or contemporaneous discussions or negotiations between City or HDPT. The recitals are incorporated into this Agreement as if set forth herein. This Agreement cannot be amended except in writing signed by both parties.

12. No Waiver.

Any failure or delay on the part either party to exercise any right under this Agreement shall not constitute a waiver of the right, and shall not preclude such party from exercising or enforcing the right, or any other provision of this Agreement, on any subsequent occasion.

13. Notices.

All notices or other communications required or desired to be given pursuant to this Agreement shall be in writing and shall be hand-delivered, or mailed by certified mail, return receipt requested, or sent by a reputable overnight courier service providing delivery confirmation. Each such notice or communication shall be deemed to be duly given when hand-delivered, or three (3) days after being mailed in any depository maintained by the United States Postal Service, with prepaid postage, certified, return receipt requested or one (1) day after being deposited for next day delivery with Federal Express or other courier. Each such notice or communication shall be addressed to the parties at their respective addresses set forth below, or to any other address which either of them regularly conducts business.

CITY:
City of Victorville
Attention: Jon Roberts
14343 Civic Drive
Victorville, California 92392
Newport Beach, California 92660

HDPT:
c/o High Desert Power Project LLC
Attention: Thomas Barnett
3501 Jamboree Road
South Tower, Suite 606

14. Headings; Section References.

Captions and headings appearing in this Agreement are inserted solely as reference aids for the ease and convenience; they shall not be deemed to define or limit

the scope or substance of the provisions they introduce, nor shall they be used in construing the intent or effect of such provisions.

15. Separability.

If any provision of this Agreement is finally determined by a court to be invalid or unenforceable as written, the provision shall, if possible, be enforced to the extent reasonable under the circumstances and otherwise shall be deemed deleted from this Agreement. The other provisions of this Agreement shall remain in full force and effect so long as the material purposes of the Agreement and understandings of the parties are not impaired.

16. Binding Effect Assignment.

This Agreement shall be binding on and insure to the benefit of the parties, and their respective successors and assigns. HDPT shall have the right to sell, assign or transfer this Agreement and any and all of its rights, duties and obligations hereunder, in whole or in part, to any person or entity at any time during the term of this Agreement. In particular, but not in limitation of the foregoing, HDPT may, by way of security, charge or otherwise, encumber to a bank, financial institution, or other provider of debt or equity financing, or an agent or trustee on behalf of any such person, or the trustee of HDPT, all or any part of HDPT's rights under this Agreement for financing purposes. City shall execute such consents, agreements, certificates and other documents as HDPT may reasonably request to give effect to said encumbrance.

17. Attorneys Fees.

In the event that any action or proceeding is brought to enforce one or more of the terms of this Agreement, to restrain an alleged violation of this Agreement, or to determine the validity of this Agreement or any part thereof, the prevailing party in any such action or proceeding shall be entitled to recover from the other its reasonable

costs and attorneys' fees, in addition to any other remedies available to it in law or equity. If both parties are successful in one or more causes of action during any such proceeding, the costs and fees shall be apportioned as determined by the court.

18. Obligations Subject to Applicable Laws.

HDPT hereby acknowledges and agrees that City is a municipal corporation which is subject to certain requirements and limitations. This Agreement and the obligations of City hereunder are subject to all applicable federal, state and local laws, rules, and regulations, as currently written or as they may be amended from time to time, unless such rule or regulation is adopted by City to evade its obligations under this Agreement.

19. Governing Law and Venue.

This Agreement is a contract governed in accordance with the laws of the State of California. THE PARTIES HEREBY AGREE THAT VENUE FOR ANY ACTION BROUGHT TO ENFORCE THE TERMS OF THIS AGREEMENT SHALL BE IN A COURT OF COMPETENT JURISDICTION IN THE COUNTY OF SAN BERNARDINO, CALIFORNIA, AND CONSENT TO THE JURISDICTION THEREOF.

20. Execution in Counterparts; Facsimile Signatures.

This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon, provided such signature page is attached to any other counterpart identical thereto except for having an additional signature page executed by the other Party. Each Party agrees that the other Party may rely upon the facsimile signature of the other Party on this Agreement as constituting a duly authorized, irrevocable, actual, current delivery of this Agreement as

fully as if this Agreement contained the original ink signature of the Party supplying a facsimile signature.

21. Liabilities of HDPT.

The liabilities hereunder shall be solely those of HDPT and its obligations to make payments hereunder shall not extend beyond its assets, and no other party shall have liability to make such payments, including the certificate holders of HDPT, the trustee of the HDPT certificate holders, or HDPT's lender(s) or the lender's agent.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the date first written above by their duly authorized representatives.

Dated: 10-11-01

HIGH DESERT POWER TRUST

By: HIGH DESERT POWER PROJECT LLC,
not in its individual capacity, but as Supervisory
Agent for High Desert Power Trust

By: 

Dated: 10/11/01

CITY OF VICTORVILLE

By: 
Jon Roberts, City Manager

CONDITIONS of CERTIFICATION

SOIL&WATER-1 The only water used for project operation (except for domestic purposes) shall be State Water Project (SWP) water obtained by the project owner consistent with the provisions of the Mojave Water Agency's (MWA) Ordinance 9.

- a. Whenever SWP water is available to be purchased from MWA, the project owner shall use direct delivery of such water for project operation.
- b. Whenever water is not available to be purchased from the MWA, the project owner may use SWP water banked in the seven HDPP wells identified in Figure Number 1 of the Addendum Number 1 to the Evaluation of Alternative Water Supplies for the High Desert Power Project (Bookman-Edmonston 1998) as long as the amount of water used does not exceed the amount of water determined to be available to the project pursuant to **SOIL&WATER-5**.
- c. If there is no water available to be purchased from the MWA and there is no banked water available to the project, as determined pursuant to **SOIL&WATER-5**, no groundwater shall be pumped, and the project shall not operate. At the project owner's discretion, dry cooling may be used instead, if an amendment to the Commission's decision allowing dry cooling is approved.
- d. The project shall not use treated water from the Victor Valley Wastewater Authority.
- e. The project's water supply facilities shall be appropriately sized to meet project needs.

Verification: The project owner shall provide final design drawings of the project's water supply facilities to the CPM, for review and approval, thirty (30) days before commencing project construction. Verifying compliance with other elements of Condition **SOIL&WATER-1** shall be accomplished in accordance with the provisions of the Verifications for Conditions 2, 3, and 6, as appropriate.

SOIL&WATER-2 The project owner shall provide a copy of the storage agreement between the Mojave Basin Area Watermaster (Mojave Water Agency) and VVWD prior to the initiation of any groundwater banking, and within fifteen (15) days of any amendment or renewal of the storage agreement.

Verification: The project owner shall submit to the CEC CPM a copy of the application for a storage agreement (for the project's cooling water) with the Mojave Basin Area Watermaster at the time the application is filed. The project owner shall submit to the CEC CPM a copy of the approved storage agreement from the Mojave Basin Area Watermaster within fifteen (15) days of receipt of the agreement.

SOIL&WATER-3 The project owner shall provide a copy of a "Will Serve Letter" from VVWD to the CEC CPM prior to the start of commercial operation.

Verification: The project owner shall provide a copy of a "Will Serve Letter" from VVWD to the CEC CPM within thirty (30) days of its receipt by the project owner.

SOIL&WATER-4 Injection Schedule:

- a. The project owner shall inject one thousand (1000) acre-feet of SWP water within twelve (12) months of the commencement of the project's commercial operation.
- b. By the end of the fifth year of commercial operation, the amount of water injected minus the amount of banked groundwater used for project operation, minus the amount of dissipated groundwater shall meet or exceed thirteen thousand (13,000) acre-feet.
- c. After the fifth year of commercial operation and until three (3) years prior to project closure, the project owner shall replace banked groundwater used for project operation as soon as SWP water is available for sale by MWA. The project owner may choose to delay replacement of a limited quantity of banked groundwater used for project operations during aqueduct outages until the cumulative amount of groundwater withdrawn from the bank reaches one thousand (1,000) acre-feet. Once the limit of one thousand (1,000) acre-feet has been reached, the project owner shall replace banked groundwater used for project operation during aqueduct outages as soon as SWP water is available for sale by MWA.

See the verification to **Condition 5**.

SOIL&WATER-5 Calculation of Balance:

- a. The amount of banked groundwater available to the project shall be calculated by the CEC staff using the HDPP model, FEMFLOW3D. The amount of banked groundwater available shall be updated on a calendar year basis by the CEC staff, taking into account the amount of groundwater pumped by the project during the preceding year and the amount of water banked by the project during the preceding year.
- b. When calculating the amount of banked groundwater available to the project, CEC staff shall subtract any amount of water that is produced by Victor Valley Water District (VVWD) from the project wells for purposes

other than use by the project that exceeds the baseline, as defined in **SOIL&WATER-17(1)**.

- c. Each annual model run shall simulate the actual sequence of historic pumping and injection since the injection program began. From the model runs, the CEC Staff shall determine the amount of groundwater available for each new calendar year. If the amount of banked groundwater available to the project is less than one (1) year's supply plus 1,000 acre-feet, the CEC Staff shall determine the amount of groundwater available to the project on a quarterly basis.

Verification: During the period beginning eighteen (18) months after the start of rough grading and concluding at the end of the first month after one full year (12 months) of commercial operation, the project owner shall provide a monthly report to the CEC CPM and to the CDFG on the progress of construction of the project wells, and shall identify the amount of SWP water injected and the amount of groundwater pumped during the previous month. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

After the end of the first month after one full year (12 months) of commercial operation, the project owner shall submit to the CEC CPM and to the CDFG in writing, on a quarterly basis, a monthly accounting of all groundwater pumped and all SWP water treated and injected for the preceding quarter. Within thirty (30) days of receipt of the approved annual storage agreement, pursuant to **SOIL&WATER-2**, the project owner shall submit to the CEC CPM and to the CDFG an annual written estimate of the anticipated amount of SWP water that will be banked and the anticipated amount of groundwater that will be pumped in the coming year. If the amount of banked groundwater available to the project is less than one (1) year's supply plus one thousand (1,000) acre-feet, quarterly estimates of anticipated injection and withdrawal will be required. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

CEC Staff shall use this information in the HDPP model to evaluate the amount of banked groundwater available and to calculate the approximate rate of decay. CEC Staff shall notify the project owner within thirty (30) days of the amount of banked groundwater available to be pumped in the new calendar year or in the next quarter, if applicable.

SOIL&WATER-6 Banked Water Available for Project Use:

- a. The amount of banked groundwater available to the project during the first twelve (12) months of commercial operation is the amount of SWP water injected by the project owner into the High Desert Power Project (project) wells, minus the amount of groundwater pumped by the project

owner, minus the amount of dissipated groundwater, and minus any amount described in **SOIL&WATER-5(b)**.

- b. The amount of banked groundwater available to the project after the first twelve (12) months of commercial operation is the amount of SWP water injected by the project owner into the project wells, minus the amount of groundwater pumped by the project owner, minus the amount of dissipated groundwater, minus one thousand (1,000) acre feet, and minus any amount described in **SOIL&WATER-5(b)**.
- c. During the three (3) years prior to project closure, the project owner may withdraw the balance of banked groundwater determined to be available to the project, except for one thousand (1,000) acre-feet, pursuant to **SOIL&WATER-5**. The project owner is not required to replace this final withdrawal of groundwater. However, during the three (3) years prior to project closure, at no time may the balance of banked groundwater decline below one thousand (1,000) acre-feet. Furthermore, there must be a remaining balance of one thousand (1,000) acre-feet banked in the groundwater system at closure, as determined to be available to the project pursuant to **SOIL&WATER-5**. This balance of one thousand (1,000) acre-feet must remain in the groundwater system, and the project owner, by contract or other conveyance, may not transfer the rights to this balance.
- d. The project shall not operate for longer than thirty (30) years unless the Commission has approved an amendment to its license that specifically evaluates the water resources impacts of continued operation and imposes any mitigation necessary to ameliorate any identified impacts.
- e. No water is available for project use if the requirements of **SOIL&WATER-4** are not met by the project owner.

Verification: The project owner shall use the same verification as for **SOIL&WATER-5**; however, in addition, any facility closure plan submitted during that last three (3) years of commercial operation shall address the disposition of any remaining water available to the project, as well as the disposition of the water treatment facility.

SOIL&WATER-7 The project owner shall retain ownership and operational control of the water treatment facility.

Verification: Should the project owner choose to transfer ownership or operational control of the water treatment facility, it must apply for an amendment to the Energy Commission Decision, and include an evaluation of any environmental effects associated with the transfer of ownership or operational control to another entity.

SOIL&WATER-8 The project owner shall conduct pumping tests in all project wells to establish *in situ* hydraulic parameters including transmissivity and storativity in the Regional Aquifer. From these parameters and the project well-log data, the project owner shall calculate the following site-specific values:

- effective horizontal hydraulic conductivity
- effective vertical hydraulic conductivity
- specific yield, if pumping tests indicate the aquifer is unconfined, or
- specific storage, if aquifer is confined.

Prior to conducting the pumping test, the project owner shall submit a work plan detailing the methodology to be used to conduct the proposed pumping tests and to calculate the specified parameters and values to the CEC CPM and to the CDFG for review and approval.

Based upon the information generated by the pumping tests, CEC Staff shall revise the HDPP model to reflect the results of the pumping tests. All modeling runs referred to in **SOIL&WATER-5** shall incorporate the results of these pumping tests, following approval by the CEC CPM determined pursuant to this Condition.

Protocol: The pumping tests shall provide data to calculate the *in situ* hydraulic parameters of the Regional Aquifer.

- At a minimum the pumping tests for all HDPP wells shall include the measurement of drawdown in at least one (1) non-pumping (observation) well that is screened at the same depth as the pumping well.
- Observation well(s) for each pumping test must be sufficiently close to the pumping well that pumping produces measurable drawdown of sufficient duration in the observation well(s) to analyze the site-specific hydraulic parameters including transmissivity and storativity in the Regional Aquifer.
- In addition, if the observation well data indicates a slow release of groundwater from storage, the pumping test shall be extended until the release from storage can be observed to stabilize in a plot of the data from the observation well(s). (For a description of the evaluation of storativity under slow release conditions, see Driscoll, F.G., 1986, *Groundwater and Wells*, H.M. Smyth, Inc., p. 229-230).
- Single well pumping tests and pumping tests that do not produce enough measurable drawdown in observation wells to conclusively calculate hydraulic parameters will not meet the Conditions of Certification.

Verification: The project owner shall submit to the CEC CPM and to the CDFG, six (6) months prior to the start of pumping tests, the work plan that details the

methodology for conducting the proposed pumping tests on the seven (7) HDPP wells and for calculating the specified parameters and values. With the approval of the work plan by the CEC CPM, in consultation with the CDFG, the project owner shall perform the pumping tests following the CEC protocol. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

Within two (2) months after the completion of pumping tests, the project owner shall submit to the CEC CPM and to the CDFG a report detailing how the pumping tests were conducted and the results of the tests, including the calculation of: (1) the *in situ* hydraulic parameters of transmissivity and storativity for the Regional Aquifer; and (2) the site-specific values of effective horizontal hydraulic conductivity, effective vertical hydraulic conductivity, and specific yield and/or specific storage. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

SOIL&WATER-9 The project owner shall modify the HDPP model grid to accommodate the representation of gradational changes in the hydraulic conductivity of the Regional Aquifer, in conformance with the USGS Mojave River Groundwater Basin model.

The CEC Staff shall revise the HDPP model, using the modified grid, to incorporate the gradational changes in the hydraulic conductivity of the Regional Aquifer represented in the USGS Mojave River Groundwater Basin model.

All modeling runs referred to in **SOIL&WATER-5** shall incorporate the modifications of the model along with the model information obtained from the USGS following approval by the CEC CPM determined pursuant to this Condition.

Verification: The project owner shall submit the modified model grid input files (including updated versions of any other input files that are effected by the modification of the grid) within two (2) months after the construction of the HDPP wells to the CEC Staff for review and approval, in consultation with the CDFG. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

SOIL&WATER-10 The project owner shall prepare an annual report describing groundwater level monitoring performed as follows. The project owner shall monitor groundwater levels in all project wells, in VVWD wells 21, 27, 32, and 37, in Adelanto wells 4 and 8a, and in all other wells within a one (1) mile radius of the project wells. Groundwater monitoring shall also be conducted within the Mojave River Aquifer Alluvium. Additional monitoring wells

specified by VVWD for the evaluation of well interference within Pressure Zone 2 shall also be included. Monitoring shall be performed on a quarterly basis starting within six (6) months after the start of rough grading.

Verification: The project owner shall annually submit a copy of the groundwater level monitoring report to the CEC CPM, the CDFG, the MWA, and the VVWD. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

SOIL&WATER-11 The project owner shall submit an approved Waste Discharge Requirement prior to the start of any groundwater banking unless the Regional Water Quality Control Board (RWQCB) decides to waive the need to issue a waste discharge requirement or waive the need for the project owner to file a Report of Waste Discharge.

Verification: The project owner shall submit a copy of the approved Waste Discharge Requirement from the Lahontan RWQCB to the CEC CPM within sixty (60) days of the start of rough grading. The project owner shall also submit to the CEC CPM a copy of any additional information requested by the RWQCB as part of their evaluation of the application. If the RWQCB decides to waive the need to file a Report of Waste Discharge or the need for a waste discharge requirement, the project owner shall submit a copy of the letter from the RWQCB to the CEC CPM. If a waste discharge requirement is required by the RWQCB, the project owner shall provide a copy of the approved permit to the CEC CPM.

SOIL&WATER-12 The project owner shall prepare and submit to the CEC CPM and, if applicable, to the Lahontan RWQCB for review and approval, a water treatment and monitoring plan that specifies the type and characteristics of the treatment processes and identify any waste streams and their disposal methods. The plan shall provide water quality values for all constituents monitored under requirements specified under California Code of Regulations, Title 22 Drinking Water Requirements, from all production wells within two (2) miles of the injection wellfield for the last five (5) years.

The plan shall also provide SWP water quality sampling results from Rock Springs, Silverwood Lake, or other portions of the East Branch of the California Aqueduct in this area for the last five (5) years. Also identified in the plan will be the proposed treatment level for each constituent based upon a statistical analysis of the collected water information. The statistical approach used for water quality analysis shall be approved prior to report submittal by the CEC CPM and, if applicable, the RWQCB. Treatment of SWP water prior to injection shall be to levels approaching background water quality levels of the receiving aquifer or shall meet drinking water standards, whichever is more protective. The plan will also identify contingency measures to be implemented in case of treatment plant upset.

The plan submitted for approval shall include the proposed monitoring and reporting requirements identified in the Report of Waste Discharge (Bookman-Edmonston 1998d) with any modifications required by the RWQCB.

Verification: Ninety (90) days prior to banking of SWP water within the Regional Aquifer, the project owner shall submit to the Lahontan RWQCB and the CEC CPM a proposed statistical approach to analyzing water quality monitoring data and determining water treatment levels. The project owner shall submit the SWP water treatment and monitoring plan to the CEC CPM and, if appropriate, to the Lahontan RWQCB for review and approval. The CEC CPM's review shall be conducted in consultation with the MWA, the VVWD, and the City of Victorville. The plan submitted for review and approval shall reflect any requirements imposed by the RWQCB through a Waste Discharge Requirement.

SOIL&WATER-13 The project owner shall implement the approved water treatment and monitoring plan. All banked SWP water shall be treated to meet local groundwater conditions as identified in Condition **SOIL&WATER-12**. Treatment levels may be revised by the CEC and, if applicable, by the RWQCB, based upon changes in local groundwater quality identified in the monitoring program not attributable to the groundwater-banking program. Monitoring results shall be submitted annually to the CEC CPM and, if applicable, to the RWQCB.

Verification: The project owner shall annually submit monitoring results as specified in the approved plan to the CEC CPM. The project owner shall identify any proposed changes to SWP water treatment levels for review and approval by the CEC and, if appropriate, the Lahontan RWQCB. The project owner shall notify the RWQCB, the VVWD, and the CEC CPM of the injection of any inadequately treated SWP water into the aquifer due to an upset in the treatment process or for other reasons. Monitoring results shall be submitted to the CEC CPM.

SOIL&WATER-14 The project owner shall provide access to the United States Air Force for all efforts to characterize and remediate all soil and groundwater contamination at the power plant site.

Verification: The project owner shall submit, in writing, a copy within two (2) weeks of receipt of any request from the Air Force for site access to characterize or remediate contaminated soil and/or groundwater to the CEC CPM.

SOIL&WATER-15 Prior to beginning any clearing, grading, or excavation activities associated with closure activities, the project owner must submit a notice of intent to the State Water Resources Control Board to indicate that the project will operate under provisions of the General Construction Activity Storm

Water Permit. As required by the general permit, the project owner will develop and implement a Storm Water Pollution Prevention Plan.

Verification: Two (2) weeks prior to the start of construction, the project owner shall submit to the CEC CPM a copy of the Storm Water Pollution Prevention Plan.

SOIL&WATER-16 Prior to the initiation of any earth moving activities, the project owner shall submit an erosion control and revegetation plan for CEC Staff approval. The final plan shall contain all the elements of the draft plan with changes made to address the final design of the project.

Verification: Thirty (30) days prior to the initiation of any earth moving activities, the final erosion control and revegetation plan shall be submitted to the CPM for approval, in consultation with the CDFG.

SOIL&WATER-17 The project owner shall enter into an Aquifer Storage and Recovery Agreement with the Victor Valley Water District (VVWD). This agreement shall contain the following conditions:

- 1) It shall prohibit VVWD from producing or allowing others to produce water from project wells, except that VVWD may produce water from project wells: (i) for use by the HDPP project pursuant to **SOIL&WATER-1**; and (ii) for purposes other than use by the HDPP project pursuant to **SOIL&WATER-1** provided that such production, in combination with production from the VVWD wells identified in "c" below does not exceed the amount identified as "the baseline", as defined in a below.
 - a. The contract shall define the baseline as the average aggregated annual production of the wells identified in "c" during the immediately preceding five (5) years. The contract shall state that any water produced by VVWD pursuant to (ii) above shall be included in subsequent calculations of the baseline only if that production does not exceed the baseline for the calendar year in which the production occurs, as required by this Condition.
 - b. The contract shall require VVWD to establish the first baseline using the five (5) calendar years preceding the operation of the project wells, and shall re-calculate the baseline on a calendar year basis by January 15 of each year.
 - c. The contract shall state that "wells identified in "c" means VVWD wells that are located in a corridor two (2) to two and one half (2½) miles wide adjacent to and west of the river's western bank including all wells within the following land sections:

- Within Township 6 North, Range 4 West, sections 31, 32, 33, and 34.
 - Within Township 5 North, Range 4 West, sections 4, 5, the east _ of 8, 9, 10, 15, 16, the east _ of 21, 22, 23, 25, 26, 27, the east _ of 28, the east _ of 33, 34, 35, and 36.
- 2) It shall state that the project owner shall provide to the CEC CPM and CDFG on a quarterly basis a monthly accounting of: 1) all water pumped from project wells that is supplied to the project owner; and 2) water pumped from project wells that is supplied to VVWD.
 - 3) It shall state that VVWD shall provide to the CEC CPM and CDFG a baseline calculation no later than January 15 of each year.
 - 4) The contract may include terms that require VVWD to compensate HDPP for any costs associated with subtractions from the amount of banked groundwater available to HDPP under the terms of **SOIL&WATER-5(c)**.

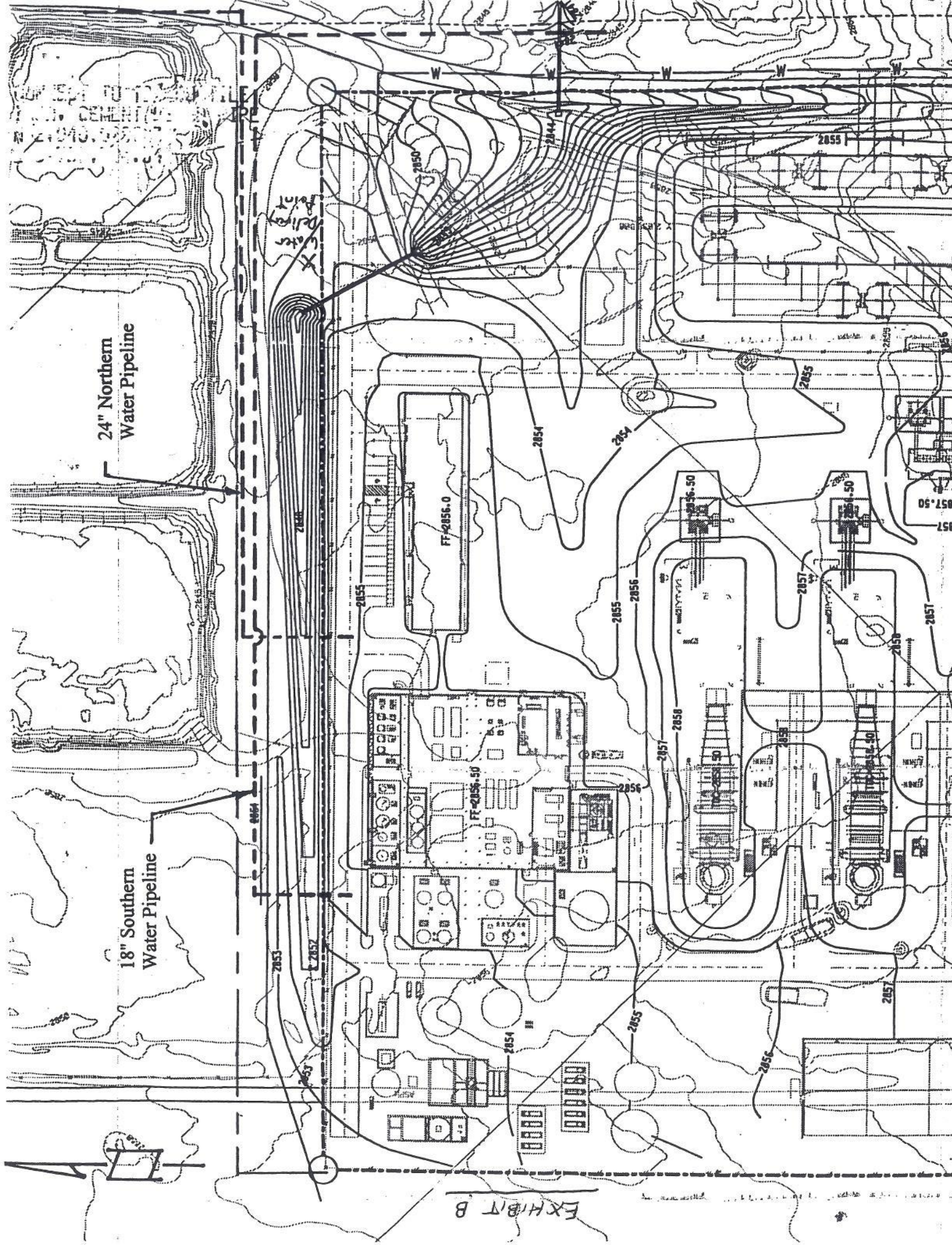
Verification: The project owner shall provide to the CEC CPM and CDFG a copy of a signed Aquifer Storage and Recovery Agreement with the terms described above prior to commencing construction of the project. Any amendments to this agreement shall be approved by the CEC CPM thirty (30) days prior to the effective date of the amendment. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

SOIL&WATER-18 The project owner shall ensure that flow meters are installed on project wells such that the total amount of water injected and produced on a monthly basis can be determined. In addition, the project owner shall ensure that separate flow meters are installed on: 1) that portion of the water delivery system that is dedicated to providing water to the project owner; and 2) on that portion of the water delivery system that will be used to provide water to VVWD pursuant to **SOIL&WATER-17.1(ii)**.

Verification: The project owner shall provide to the CEC CPM and CDFG on a quarterly basis a monthly accounting of: 1) all groundwater injected into project wells; 2) water pumped from project wells that is supplied to the project owner; and 3) water pumped from project wells that is supplied to VVWD. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.

SOIL&WATER-19 The project owner shall limit any use of water treatment facilities by VVWD or another entity, for purposes other than providing water to the HDPP, to treating SWP water for injection into the regional aquifer. The project owner shall not allow VVWD or another entity to use the water treatment facility for treatment of water that is injected and then recovered by VVWD unless the watermaster and VVWD have entered into a water storage agreement, and for which the appropriate lead agency has completed a CEQA review as required by MWA Ordinance 9. Any water injected by VVWD shall not increase the baseline pursuant to **SOIL&WATER-17.1**). The project owner shall not enter into any contract or amend any existing contract to allow VVWD or another entity to use the water treatment facility for domestic purposes, unless the Energy Commission has approved an amendment to the project Decision allowing such use.

Verification: The project owner shall provide to the CEC CPM and CDFG a copy of any water storage agreement between the watermaster and VVWD within thirty (30) days of its execution which incorporates these restrictions. The CEC CPM shall provide notice that this material has been submitted to those identified on the project's compliance mailing list.



24" Northern
Water Pipeline

18" Southern
Water Pipeline

EXHIBIT B

Summary Table of Recycled Water Availability

Year	(a) VVWRA Projection (MGD)	(b) Actual VVWRA Projection (MGD)	(c) CDFG Obligation (MGD)	(d) "Available" Flow (MGD) after MOU obligation	(e) IWWTP (MGD)	(f) SCLA Irrigation (MGD)	(g) HDPP (MGD)	(h) Victorville 2 (MGD)	Total Demand (MGD)	Remaining Available Flow (MGD)	Remaining Available Flow (AFY)
2007			8.6								
2008	12.26		8.7	3.6		0.3			9.0	3.3	3651.2
2009	12.19		8.7	3.5		0.3	0.89		9.9	2.3	2591.7
2010	12.31	10.81	8.4	2.4	2.20	0.3	0.89		9.6	3.4	3819.2
2011	12.43	10.93	8.4	2.5	2.50	0.3	0.89		9.6	3.8	4262.7
2012	12.62	11.12	8.5	2.6	2.50	0.3	2.86	1.74	13.4	0.2	277.8
2013	12.81	11.31	8.5	2.8	2.50	0.0	2.86	2.32	13.7	0.1	134.4
2014	13.01	11.51	8.6	3.0	2.50	0.0	2.86	2.32	13.7	0.3	313.6
2015	13.20	11.70	8.6	3.1	3.50	0.3	2.86	2.32	14.1	1.1	1267.8
2016	13.39	11.89	8.6	3.3	3.50	0.3	2.86	2.32	14.1	1.3	1438.1
2017	13.58	12.08	8.7	3.4	3.50	0.3	2.86	2.32	14.1	1.4	1608.3
2018	13.77	12.27	8.7	3.6	3.50	0.3	2.86	2.32	14.2	1.6	1778.6
2019	13.97	12.47	8.7	3.7	3.50	0.3	2.86	2.32	14.2	1.7	1956.2
2020	14.17	12.67	8.8	3.9	4.50	0.6	2.86	2.32	14.6	2.6	2920.5
2021	14.37	12.87	8.8	4.1	4.50	0.6	2.86	2.32	14.6	2.8	3103.3
2022	14.58	13.08	8.9	4.2	4.50	0.6	2.86	2.32	14.6	2.9	3288.7
2023	14.79	13.29	8.9	4.4	4.50	0.6	2.86	2.32	14.7	3.1	3476.8
2024	15.00	13.50	8.9	4.6	4.50	0.6	2.86	2.32	14.7	3.3	3667.7
2025	15.22	13.72	9.0	4.7	4.50	0.6	2.86	2.32	14.8	3.4	3861.3
2026	15.44	13.94	9.0	4.9	4.50	0.6	2.86	2.32	14.8	3.6	4057.6
2027	15.66	14.16	9.1	5.1	4.50	0.6	2.86	2.32	14.9	3.8	4256.8
2028	15.89	14.39	9.1	5.3	4.50	0.6	2.86	2.32	14.9	4.0	4458.9
2029	16.12	14.62	9.2	5.4	4.50	0.6	2.86	2.32	15.0	4.2	4663.9
2030	16.35	14.85	9.2	5.6	4.50	0.6	2.86	2.32	15.0	4.3	4871.8
2031	16.58	15.08	9.3	5.8	4.50	0.6	2.86	2.32	15.0	4.5	5082.7
2032	16.82	15.32	9.3	6.0	4.50	0.6	2.86	2.32	15.1	4.7	5296.7
2033	17.06	15.56	9.4	6.2	4.50	0.6	2.86	2.32	15.1	4.9	5513.7
2034	17.31	15.81	9.4	6.4	4.50	0.6	2.86	2.32	15.2	5.1	5733.9
2035	17.56	16.06	9.5	6.6	4.50	0.6	2.86	2.32	15.2	5.3	5957.2
2036	17.81	16.31	9.5	6.8	4.50	0.6	2.86	2.32	15.3	5.5	6183.7
2037	18.07	16.57	9.6	7.0	4.50	0.6	2.86	2.32	15.3	5.7	6413.5
2038	18.33	16.83	9.6	7.2	4.50	0.6	2.86	2.32	15.4	5.9	6646.7
2039	18.59	17.09	9.7	7.4	4.50	0.6	2.86	2.32	15.4	6.1	6883.1
2040	18.86	17.36	9.7	7.6	4.50	0.6	2.86	2.32	15.5	6.4	7123.0

(a) Projected annual production at VVWRA. 2008-2018 data is from the VVWRA 2008 Financial Plan.

(b) 1.5 MGD will be diverted from VVWRA to the new Industrial Wastewater Treatment Plant for treatment.

(c) Amount of recycled water needed to fulfill Memorandum of Understanding between VVWRA and Dept. of Fish and Game.

(d) Amount of recycled water available for other uses after fulfillment of Memorandum of Understanding obligations.

(e) Amount of recycled water produced at the new Industrial Wastewater Treatment Plant.

(f) Amount of recycled water needed to irrigate Westwinds golf course.

(g) Demand from High Desert Power Project for recycled water.

(h) Demand from Victorville 2 project for recycled water. Online no sooner than spring 2012.

WATER QUALITY DATA

Parameter	Symbol	Units	SWP Water		VWWTP		
			Min	Max	Avg	Min	Max
Calcium	Ca	mg/l	11	49	19	15	23
Magnesium	Mg	mg/l	4.8	20	5.14	2.3	11
Sodium	Na	mg/l	18	75	84.51	68	92
Potassium	K	mg/l	1.5	19	10.44	8.7	12
Sulfate	SO4	mg/l	13	58	39.39	32	49
Chloride	Cl	mg/l	18	116	73.81	4	88
Flouride	F	mg/l	0	0.3	0.5	0.34	7
Nitrate	NO3	mg/l	0.0	7.7	42.11	22	57
Bicarbonates	HCO3	mg/l	42	146	110.19	30.4	367
Silica	SiO2	mg/l	10	18	24	21	35
Total Dissolved Solids	TDS	mg/l	187	351	362.38	187	890
Total Suspended Solids	SS	mg/l	ND	31	11	11	11
Total Organic Carbon	TOC	mg/l	0	6.5	6.43	3	10
Specific Conductance	Cond	uS/cm	337	621	587.53	332	664
Turbidity	Turbidity	N.T.U.	<1	25	0.73	0.02	1.6
OrthoPhosphate	P-Ortho	mg/l	0.09	0.18	0.09	0.02	0.22
pH	pH	S.U.	7.6	9	7.36	6.9	7.9
Hardness, Total as CaCO3	Hardness	mg/l	47	135	68.25	48.6	91.1
Iron	Fe	mg/l	0.005	1.4	0.041	0.022	0.23
Manganese	Mn	mg/l	0.005	0.066	0.0092	0.003	0.07
Aluminum	Al	mg/l	0	0.87	0.033	0.021	0.069
Arsenic	As	mg/l	<0.001	0.027	0.0028	0.0021	0.0052
Barium	Ba	mg/l	0.032	0.162	0.0098	0.0075	0.013
Boron	B	mg/l	<0.1	0.2	0.24	0.024	0.3
Chromium	Cr	mg/l	0.001	0.11	0.0024	0.0012	0.0053
Copper	Cu	mg/l	0.001	0.111	0.0031	0.002	0.0056
Lead	Pb	mg/l	0.001	0.022	0.002	0.00053	0.0062
Nickel	Ni	mg/l	0	0.054	0.0078	0.0067	0.0088
Zinc	Zn	mg/l	0.005	0.12	0.098	0.02	0.55

ND = Not Detectable within the limits of the current test method.

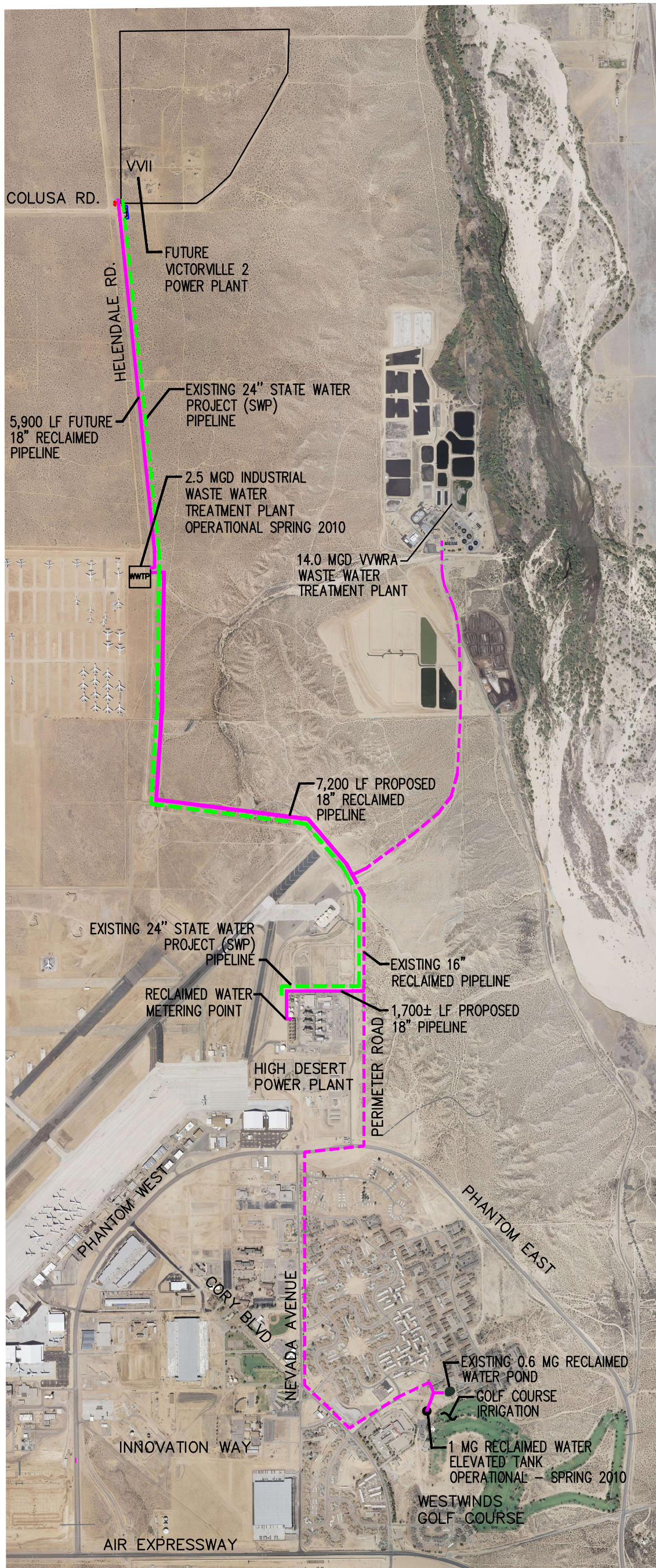


Figure 1
 EXISTING AND PROPOSED
 RECLAIMED WATER SYSTEM
 June 30, 2009

